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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,257	03/31/2004	Kiyoshi Takekoshi	251152US-2SXCONT	5297
22850	7590	03/22/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			NGUYEN, JIMMY	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/813,257	Applicant(s) TAKEKOSHI ET AL.	
	Examiner Jimmy Nguyen	Art Unit 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 31 is/are pending in the application.
- 4a) Of the above claim(s) 21-24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-20 is/are allowed.
- 6) ☒ Claim(s) 25-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0304 and 0404</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I claims 1 – 20 and 25 – 31 in the reply filed on 12/31/04 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 25, 27, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsu (US 6,265,888).

As to claim 25, Hsu discloses (figs 1 – 3) a reliability evaluation test method of executing different reliability evaluation tests (column 1 lines 30 – 34) for a semiconductor wafer (14) in a state wherein the semiconductor wafer (14) and a contactor (34, fig 3) are totally in electrical contact with each other.

As to claim 27, Hsu (figs 1 – 3) disclose the reliability evaluation test (column 1 lines 30 – 34) is executed simultaneously for not less than 100 semiconductor devices (plurality of high density devices) on the semiconductor wafer (14).

As to claim 28, Hsu (figs 1 – 3) disclose the reliability evaluation test method wherein a leakage current test (column 1 lines 29) is executed as the reliability evaluation test.

4. Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Buo et al (US 4,567,432).

As to claim 26, Buo et al discloses (fig 1) a reliability evaluation test method of executing a reliability evaluation test for a semiconductor wafer (14) by pressing the semiconductor wafer (14) and a contactor (50) which are totally in electrical contact with each other, heating(13) the semiconductor wafer (14) to not less than 1600C (column 1 line 23 – 25), and rendering the semiconductor wafer (14) conductive.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 29 , 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,265,888) in view of Buo et al (US 4,567,432).

As to claim 29, Hsu (figs 1 – 3) disclose everything except for the temperature distribution in a surface of the semiconductor wafer is controlled at a range of 160 degree to 350 degree.

On the other hand, Buo et al teach the temperature distribution in a surface of the semiconductor wafer (14) is controlled at a range of 160 degree to 350 degree (column 1 lines 45 – 48, temperature is greater than 70 degree).

It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to the particular range temperature to test the semiconductor devices for the purpose of testing the operability of the completed devices.

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As to claim 30, Hsu (figs 1 – 3) disclose everything except for the semiconductor wafer and the contactor are placed in one of an inert gas atmosphere and an atmosphere of an inert gas mixed with a reducing gas.

On the other hand, Buo et al teach the semiconductor wafer and the contactor are placed in one of an inert gas (13) atmosphere and an atmosphere of an inert gas mixed with a reducing gas (refrigerant gas, column 2 lines 63).

It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to use the inert gas for the purpose of cooling the semiconductor devices during the testing process.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 6,265,888) in view of Buo et al (US 4,567,432) and further in view of Nowotarski (US 5,071,058).

As to claim 31, Hsu (figs 1 – 3) and Buo et al disclose everything except for the oxygen concentration in the atmosphere is not more than 100ppm.

On the other hand, Nowotarski teaches the oxygen concentration in the atmosphere is not more than 100ppm (column 5 lines 43 – 45).

It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to use the specific range of oxygen concentration for the purpose of prevent discoloration of the devices.

Allowable Subject Matter

8. Claims 1 –20 are allowed.

The prior arts of record are disclose the combination of a reliability evaluation test apparatus which tests a reliability of a semiconductor wafer on the basis of a test signal from a measurement unit, comprising a measurement section and a storage section which has a hermetic and heat insulating structure, stores a semiconductor wafer that is totally in electrical contact with a contactor, and transmits/receives a test signal to/from the measurement section, comprising: a pressure mechanism which presses the contactor in the storage section; and a heating mechanism which heats the semiconductor wafer that is totally brought into contact with the contactor by the pressure mechanism to a predetermined temperature.

However, the prior arts of record are fail to disclose the above limitation combine with **the reliability evaluation test apparatus evaluates reliability of multilayered interconnection and an insulting film, which are formed on the semiconductor wafer, under an accelerated condition.**

Conclusion

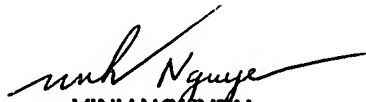
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen whose telephone number is (703) 306-5858. The examiner can normally be reached on M - F from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rarmiez Nestor, can be reached on 571-272-1965. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jimmy Nguyen

3/15/05


VINH NGUYEN
PRIMARY EXAMINER
A.U. 2829A
03/17/05